

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 10/032196
Filing Date: December 21, 2001
Title: GUIDANCE WITH FEATURE ACCOUNTING FOR INSIGNIFICANT ROADS

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IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An electronic navigational aid device, comprising:
a processor; and
a memory adapted to communicate with the processor, wherein the processor and memory are adapted to cooperate to provide route guidance that accounts for insignificant route segments, including route guidance that modifies a maneuver associated with an insignificant route segment.
2. (Original) The device of claim 1, wherein the electronic navigational aid device further comprises a portable electronic navigational aid device.
3. (Original) The device of claim 2, wherein the portable electronic navigational aid device includes a personal digital assistant (PDA).
4. (Original) The device of claim 2, wherein the portable electronic navigational aid device includes a wireless communications device.
5. (Original) The device of claim 1, further comprising a display adapted to communicate with the processor, wherein the display is adapted to provide a visual indication of the route guidance.
6. (Original) The device of claim 1, further comprising a speaker adapted to communicate with the processor, wherein the speaker is adapted to provide an audio indication of the route guidance.
7. (Original) The device of claim 1, wherein the route guidance that accounts for insignificant segments includes route guidance that nullifies a maneuver associated with an insignificant route segment.

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8. (Canceled)

9. (Currently Amended) An electronic navigational aid device, comprising:

a processor; and

a memory adapted to communicate with the processor, wherein the processor and memory are adapted to cooperate to:

identify a sequence of route segments and a sequence of maneuvers associated with the route segments,

determine whether a route segment in the sequence of route segments is significant or insignificant,

provide route guidance for a maneuver associated with a significant route segment, and

account for an insignificant route segment prior to providing route guidance for the maneuver associated with the insignificant route segment, wherein accounting for the insignificant route segments includes nullifying some maneuvers associated with insignificant route segments and modifying other maneuvers associated with insignificant route segments.

10. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by determining whether the segment has a name.

11. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by determining whether the segment has a length less than a predetermined distance.

12. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by determining whether the segment has a length less than a length of a successive segment.

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13. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by determining whether a route guidance maneuver for the segment and a route guidance maneuver for a successive segment qualify for nullification.

14. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by determining whether a route guidance maneuver for the segment and a route guidance maneuver for a successive segment qualify for modification, and by modifying the route guidance maneuver for the segment upon determining that the route guidance maneuver for the segment and the route guidance maneuver for the successive segment qualify for modification.

15. (Original) The device of claim 9, wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by:
determining whether the segment has a name;
determining whether the segment has a length less than a predetermined distance;
determining whether the segment has a length less than a length of a successive segment;
and
determining whether a route guidance maneuver for the segment and a route guidance maneuver for a successive segment qualify for nullification or modification.

16. (Currently Amended) A navigation system, comprising:
a server; and
a navigation device adapted to communicate with and retrieve navigation data from the server via a communication channel,
wherein the system is adapted to provide route guidance that accounts for insignificant route segments, including route guidance that modifies a maneuver associated with an insignificant route segment.

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17. (Original) The system of claim 16, wherein the route guidance that accounts for insignificant segments includes route guidance that nullifies a maneuver associated with an insignificant route segment.
18. - (Canceled)
19. (Original) The system of claim 16, wherein the system is adapted to:
identify a sequence of route segments and a sequence of maneuvers associated with the route segments,
determine whether a route segment in the sequence of route segments is significant or insignificant,
provide route guidance for a maneuver associated with a significant route segment, and
account for an insignificant route segment prior to providing route guidance for a maneuver associated with the insignificant route segment.
20. (Original) The navigation system of claim 16, wherein the communication channel includes a wireless channel.
21. (Original) The navigation system of claim 16, wherein the server includes a remote server.
22. (Original) The navigation system of claim 16, wherein the server includes a processor adapted to respond to a request from the navigation device by performing calculations on the navigation data and transmitting the results to the navigation device.
23. (Original) The navigation system of claim 16, wherein the navigation device is adapted to communicate with and retrieve navigation data from the server using streaming data.

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24. (Original) The navigation system of claim 16, wherein the navigation device is adapted to communicate with and retrieve navigation data from the server using cellular communication technology.

25. (Original) The navigation system of claim 16, wherein:
the navigation device includes a processor in communication with a memory; and
the processor and the memory of the navigation device are adapted to cooperate to:
identify the sequence of route segments and the sequence of maneuvers associated
with the route segments,
determine whether a route segment in the sequence of route segments is
significant or insignificant,
provide route guidance for the maneuver associated with a significant route
segment, and
account for an insignificant route segment prior to providing route guidance for
the maneuver associated with the insignificant route segment.

26. (Currently Amended) A method, comprising:
determining whether a route segment is significant or insignificant;
upon determining that a route segment is significant, providing route guidance for a
maneuver associated with the significant route segment; and
upon determining that a route segment is insignificant, accounting for the insignificant
route segment prior to providing route guidance for a maneuver associated with the insignificant
route segment, wherein accounting for insignificant route segments includes nullifying the
maneuver associated with some insignificant route segments and modifying the maneuver
associated with other insignificant route segments.

27. (Canceled)

28. (Canceled)

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29. (Original) The method of claim 26, wherein accounting for the insignificant route segment prior to providing route guidance for a maneuver associated with the insignificant route segment includes:

determining whether the maneuver associated with the insignificant route segment is to be modified;

upon determining that the maneuver associated with the insignificant route segment is to be modified, modifying the maneuver associated with the insignificant route segment; and

upon determining that the maneuver associated with the insignificant route segment is not to be modified, nullifying the maneuver associated with the insignificant route segment.

30. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes determining whether the route segment has a name.

31. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes determining whether the route segment has a length less than a predetermined distance.

32. (Original) The method of claim 31, wherein determining whether the route segment has a length less than a predetermined distance includes determining whether the route segment has a length less than about 100 meters.

33. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes determining whether the route segment has a length less than a length of a successive route segment.

34. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification.

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35. (Original) The method of claim 34, wherein:

determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification includes determining whether the route guidance maneuver for the route segment and the route guidance maneuver for the successive route segment qualify for modification; and

upon determining that the route guidance maneuver for the route segment and the route guidance maneuver for the successive route segment qualify for modification, modifying the route guidance maneuver for the route segment.

36. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes:

determining whether the route segment has a name;

determining whether the route segment has a length less than a predetermined distance;

determining whether the route segment has a length less than a length of a successive route segment; and

determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification or modification.

37. (Original) The method of claim 26, wherein determining whether a route segment is significant or insignificant includes:

determining whether the route segment has a name;

upon determining that the route segment does not have a name, determining whether the route segment has a length less than a predetermined distance;

upon determining that the route segment has a length less than a predetermined distance, determining whether the route segment has a length less than a length of a successive route segment; and

upon determining that the route segment has a length less than a length of a successive route segment, determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification or modification.

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38. (New) An electronic navigational aid device, comprising:
- a processor; and
 - a memory adapted to communicate with the processor, wherein the processor and memory are adapted to cooperate to:
 - identify a sequence of route segments and a sequence of maneuvers associated with the route segments;
 - determine whether a route segment in the sequence of route segments is significant or insignificant;
 - provide route guidance for a maneuver associated with a significant route segment; and
 - account for an insignificant route segment prior to providing route guidance for the maneuver associated with the insignificant route segment,
- wherein the processor and the memory determine whether a segment in the sequence of route segments is significant or insignificant by:
- determining whether the segment has a name;
 - determining whether the segment has a length less than a predetermined distance;
 - determining whether the segment has a length less than a length of a successive segment; and
 - determining whether a route guidance maneuver for the segment and a route guidance maneuver for a successive segment qualify for nullification or modification.

39. (New) A method, comprising:
- determining whether a route segment is significant or insignificant, wherein determining whether a route segment is significant or insignificant includes:
 - determining whether the route segment has a name;
 - determining whether the route segment has a length less than a predetermined distance;
 - determining whether the route segment has a length less than a length of a successive route segment; and

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determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification or modification;

upon determining that a route segment is significant, providing route guidance for a maneuver associated with the significant route segment; and

upon determining that a route segment is insignificant, accounting for the insignificant route segment prior to providing route guidance for a maneuver associated with the insignificant route segment.

40. (New) A method, comprising:

determining whether a route segment is significant or insignificant, wherein determining whether a route segment is significant or insignificant includes:

determining whether the route segment has a name;

upon determining that the route segment does not have a name, determining whether the route segment has a length less than a predetermined distance;

upon determining that the route segment has a length less than a predetermined distance, determining whether the route segment has a length less than a length of a successive route segment; and

upon determining that the route segment has a length less than a length of a successive route segment, determining whether a route guidance maneuver for the route segment and a route guidance maneuver for a successive route segment qualify for nullification or modification;

upon determining that a route segment is significant, providing route guidance for a maneuver associated with the significant route segment; and

upon determining that a route segment is insignificant, accounting for the insignificant route segment prior to providing route guidance for a maneuver associated with the insignificant route segment.